

REMARKS

In the Office Action dated July 14, 2004, claim 1 was rejected under 35 U.S.C. §102(a) as being anticipated by Pardo. Claim 1 also was rejected under 35 U.S.C. §103(a) as being unpatentable over Molacek et al in view of Kitney et al.

These rejections are respectfully traversed for the following reasons.

The subject matter set forth in original claim 1, and clarified in more detail in amended claim 1 presented herein, concerns a multi-electrode catheter having a catheter body with a number of hollow lumens therein. At least some of the lumens have an electrically conductive surface formed on an internal wall thereof. This is best seen in Fig. 2, designated by reference numerals 32a and 32b. This electrically conductive surface formed on an internal wall of the lumen is used *instead of* a conventional conductor wire for conducting electrical signals along the length of the catheter. Moreover, for at least some of these lumens, the electrically conductive surface thereof is electrically connected to an electrode disposed at an exterior surface of the catheter. As shown in Fig. 1, these electrodes can be in the form of a dot 36 or a band or ring 38.

The aforementioned electrical connection can be made in different ways, such as by a plated through-hole (Fig. 2A) or by a solid plug 42a formed of electrically conductive material (Fig. 2).

Applicant respectfully submits that none of the references relied upon by the Examiner discloses or suggests such a multi-electrode catheter, both in

terms of the original claim language and in terms of the amended claim language.

The Pardo reference does not disclose or suggest the use of a hollow lumen having an electrically conductive coating on an inner wall thereof as an electrode for the catheter disclosed in that reference. To the contrary, the Pardo reference explicitly and exclusively teaches the use of wire conductors or wire-like conductors, as stated in paragraph [0025] of that reference. In the substantiation of the rejection of claim 1 based on the Pardo reference, the Examiner did not identify or cite any language in the Pardo reference allegedly disclosing such an interiorly-conductively coated lumen, and this is understandable because no such disclosure exists in the Pardo reference. The Pardo reference relies entirely on the use of conventional wires as the conductors, even though these wires proceed through respective lumens.

The Pardo reference, therefore, does not disclose or suggest all of the elements of independent claim as arranged and operating in that claim, and therefore does not anticipate claim 1, nor any of the claims depending therefrom.

The Molacek reference discloses a medical electrode lead having a polymeric lead body with a number of lumens, however, within each lumen a conventional coiled conductor is disposed. The use of such conventional coiled conductors is explicitly described in the Molacek et al reference at column 2, lines 48-60. Each coil conductor has a helically wound wire contained in an insulating jacket, which is why, in the sectional view shown in Fig. 2, the conductors (shown in section) appear separated from each other.

In fact, Fig. 2 is simply showing a "slice" through a helically wound insulated conductor.

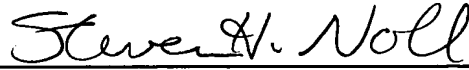
None of the lumens or channels in Figure 2 of the Molacek et al reference has any type of electrically conductive coating.

The Examiner relied on the Kitney et al reference (cited by the Applicant) as teaching a catheter having lumens containing electrical leads wherein each of the lumens has a wall coated with a metallic coating. As the Examiner noted, the purpose of this metallic coating is to prevent or minimize crosstalk between the respective conductors. Therefore, in the Kitney et al reference, the metallic coating serves as a shielding, rather than as a signal conductor. Moreover, there is no teaching in either of the Molacek et al or the Kitney et al references to electrically connect such a metallic coating on an interior wall of a lumen to an electrode disposed at an exterior of the catheter. In fact, if such an electrical connection were made in the Kitney et al reference, the shielding effect of the metallic coating would be completely destroyed.

Therefore, even if the Kitney et al reference were used to modify the Molacek et al electrode, an electrode as set forth in claim 1 and the claims depending therefrom still would not result. Moreover, since the metallic coating in the Kitney et al reference is described as being solely for the purpose of shielding, there is no teaching, motivation or inducement for a person of ordinary skill to completely disregard that purpose of the metallic coating in the Kitney et al reference, and instead connect that metallic coating to an exterior electrode.

All claims of the application are therefore submitted to be in condition for allowance, and early reconsideration of the application is respectfully requested.

Submitted by,



(Reg. 28,982)

SCHIFF, HARDIN LLP
CUSTOMER NO. 26574
Patent Department
6600 Sears Tower
233 South Wacker Drive
Chicago, Illinois 60606
Telephone: 312/258-5790
Attorneys for Applicants.

CH1\4183220.1